What is claimed is:

(9) CLAIMS

1. A method for reproducing a sepia tone image, the method comprising:

scanning said sepia tone image with visible light and infrared light;

using data associated with infrared light reflected from the image and data associated with visible light reflected from the image, creating adjusted data; and

outputting a reproduction image using said adjusted data.

2. The method as set forth in claim 1 wherein creating adjusted data further comprises:

obtaining tristimulus color space coordinates for pixels of the sepia tone image in a first coordinate system;

converting the first coordinate system to a second coordinate system wherein infrared radiation data is used to modify a single coordinate thereof; and

factoring data values associated with said second system based on data values associated with said first coordinate system.

3. The method as set forth in claim 2 wherein said obtaining tristimulus color space coordinates for pixels of the sepia tone image associated with a first coordinate system comprises:

using red, green, blue color space coordinates.

4. The method as set forth in claim 3 wherein the second color coordinate system is L*a*b*, where L = luminance value, a=red-yellow value, and b=green-blue value.

5. The method as set forth in claim 4 wherein said converting further comprises:

transforming all RGB space coordinates to L*a*b* space coordinates.

6. The method as set forth in claim 5 wherein said converting further comprises:

determining a benchmark value of "L" associated with said sepia tone image.

7. The method as set forth in claim 6 wherein said converting further comprises:

discarding all pixels where 'L' is less than said benchmark value.

8. The method as set forth in claim 7 wherein said converting further comprises:

discarding all pixels wherein 'b' is negative.

9. The method as set forth in claim 8 wherein said converting further comprises:

calculating a median value for 'a' and a median value for 'b' wherein a set of

said median values represents a background chroma for said sepia tone image.

10. The method as set forth in claim 9 wherein said factoring comprises:

replacing all 'a' values of said L*a*b* space coordinates with said median 'a' value,

replacing all 'b' values of said L*a*b* space coordinates with said median 'b' value,

replacing all 'L' values of said L*a*b* space coordinates with an associated data value representative of infrared light reflected from the sepia tone image.

11. A sepia tone scanner comprising:

illuminating means for scanning a document with visible light and infrared radiation;

means for receiving data representative of reflected visible light and data representative of reflected infrared radiation; and

means for adjusting said data representative of reflected visible light using said data representative of reflected infrared radiation.

12. The apparatus as set forth in claim 11 comprising:

if said apparatus is a reduction optic scanner, said illuminating means including means for selectively filtering said infrared radiation from being scanned across said image.

13. The apparatus as set forth in claim 11 comprising:

if said apparatus is a contact image scanner, said illuminating means including an infrared emitter.

14. The apparatus as set forth in claim 11 said means for adjusting comprising:

means for converting RGB color coordinate data to L*a*b* color coordinate data,

means for determining an image background level L_b value, and

means for replacing the L*a*b* color coordinate data with coordinate data representative of original sepia tones of said sepia tone image.

15. The apparatus as set forth in claim 14, said means for replacing the L*a*b* color coordinate data with coordinate data representative of original sepia tones of said sepia tone image, further comprising:

means for calculating median a-value coordinate and median b-value coordinate,

means for replacing a-value color coordinate data with said median a-value coordinate and b color coordinate data with said median b-value coordinate, and

means for replacing L coordinates of said L*a*b* color coordinate data with received said data representative of reflected infrared radiation.

16. The apparatus as set forth in claim 15 comprising:

means for converting coordinate data representative of original sepia tones of said sepia tone image to an output device color coordinate system.

17. A computer memory device comprising:

computer code for receiving data representative of reflected visible light and data representative of reflected infrared radiation; and

computer code for adjusting said data representative of reflected visible light using said data representative of reflected infrared radiation.

18. The device as set forth in claim 17, said computer code for adjusting comprising:

computer code for converting RGB color coordinate data to L*a*b* color coordinate data,

computer code for determining an image background level L_b value, and

computer code for replacing the L*a*b* color coordinate data with coordinate data representative of original sepia tones of said sepia tone image.

19. The device as set forth in claim 17, said computer code for replacing the L*a*b* color coordinate data with coordinate data representative of original sepia tones of said sepia tone image. further comprising:

computer code for calculating median a-value coordinate and median b-value coordinate,

means for replacing a-value and b-value color coordinate data with said median a-value and median b-value coordinate, respectively, and

means for replacing L coordinates of said L*a*b* color coordinate data with received said data representative of reflected infrared radiation.

20. The device as set forth in claim 17 comprising:

computer code for converting coordinate data representative of original sepia tones of said sepia tone image to an output device color coordinate system.